

# PREPERM® PPE650

$\epsilon_r = 6.5$ ,  $\tan \delta = 0.0009$   
General purpose

Applications: Antennas  
Antenna parts

**PREPERM®** PPE650 is a special compound based on Premix proprietary PPE technology. It offers a stable dielectric constant over wide frequency and temperature ranges with low losses. PPE650 is a general purpose grade optimized for injection molding.

## Dielectric properties

		Standard	Value	Tolerance
Dielectric constant, $\epsilon_r$	2.4 GHz	SPDR	6.50	±0.2
Loss tangent, $\tan \delta$	2.4 GHz	SPDR	0.0009	-

## Processing parameters

		Unit	Value
<b>Injection moulding</b>			
	Material temperature	°C	270 – 300
	Mould temperature	°C	80 – 120
	Injection pressure		Moderate
	Injection speed		Moderate
<b>Extrusion</b>			
	Material temperature	°C	260 – 300
	Die temperature	°C	260 – 300
	Tool/roll temperature	°C	60 – 120

These temperatures can be used for guidance purposes. Processing temperature is also dependent on the equipment used. The instructions of the equipment manufacturer should be followed.

Pre-drying in a dehumidifying drier is recommended e.g. 2 - 4 hours at 100 - 110°C. If a dehumidified drier is not available, we recommend increasing the drying temperature to 110 – 120 °C and prolonging the drying time to 3 to 6 hours. If moisture level is too high, it can be seen in surface quality, but it does not cause polymer degradation.

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## Material properties

	Unit	Standard	Value
<b>Physical properties</b>			
Specific gravity	g/cm <sup>3</sup>		1.86
Water absorption	%	ISO 62	0.2
Melt Flow Index	g/10 min	ISO 1133 (300 °C / 5.0 kg)	11
Color			White
<b>Thermal Properties</b>			
Deflection Temperature		ISO 75-2:2013	
	0.45 MPa	°C Method B	146
	1.8 MPa	°C Method A	112
Mold shrinkage	%	ISO 294-4	0.7
<b>Mechanical Properties</b>			
Tensile strength	MPa	ISO 527-2:2012	43
Yield strength	MPa	ISO 527-2:2012	47
Elongation at break	%	ISO 527-2:2012	8
Elongation at yield	%	ISO 527-2:2012	4
Flexural modulus	MPa	ISO 178:2010	2600
Impact strength, unnotched Izod		ISO 180:2000	
	23 °C/73 °F	kJ/m <sup>2</sup>	NB
	-20 °C/-4 °F	kJ/m <sup>2</sup>	50
	-78 °C/-108 °F	kJ/m <sup>2</sup>	45
Impact strength, notched Izod		ISO 180:2000	
	23 °C/73 °F	kJ/m <sup>2</sup>	9
	-20 °C/-4 °F	kJ/m <sup>2</sup>	8
	-78 °C/-108 °F	kJ/m <sup>2</sup>	8
Flammability		UL94	
	1.5 mm		-
	3.0 mm		-

PREPERM® is RoHS compliant.

The information in this data sheet represents typical values obtained by us and should not be regarded as a specification.

We condition that the product will be inspected and qualified by the customer for his process to meet the specific requirements set by application, processing equipment and end product.

## Packaging

PREPERM® is supplied in granule form, packed in 25 kg polyethylene valve bags (1250 kg) on one-way pallet. The product can be stored up to one year in normal storing conditions.

### Contact our sales and R&D teams:

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